STEPTOE & JOHNSON LLP
ATTORNEYS AT LAW

Carlos Nalda
202.429.6489
cnalda@steptoe.com

1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Tel 202.429.3000
Fax 202.429.3902
steptoe.com

December 11, 2003

Marlene H. Dortch
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

Re: Notice of Ex Parte Presentation in Amendment of Part 22 of the Commission's Rules To Benefit the Consumers of Air-Ground Telecommunications Services; WT Docket No. 03-103

Dear Ms. Dortch:

On December 10, 2003, representatives of The Boeing Company ("Boeing") met with members of the Commission staff to address certain issues raised in the above-referenced proceeding. The participants in the meeting included: Sean Schwinn, David Bogart, Audrey Allison and Guy Christiansen of Boeing; Philip Malet of Steptoe & Johnson; Richard Arsenault, Shellie Blakeney, David Furth, Kathy Harris and Roger Noel of the Wireless Telecommunications Bureau; and Julius Knapp, James Schlichting, Thomas Derenge and Neal McNeil of the Office of Engineering and Technology. The issues discussed at the meeting are set forth in the attached presentation.

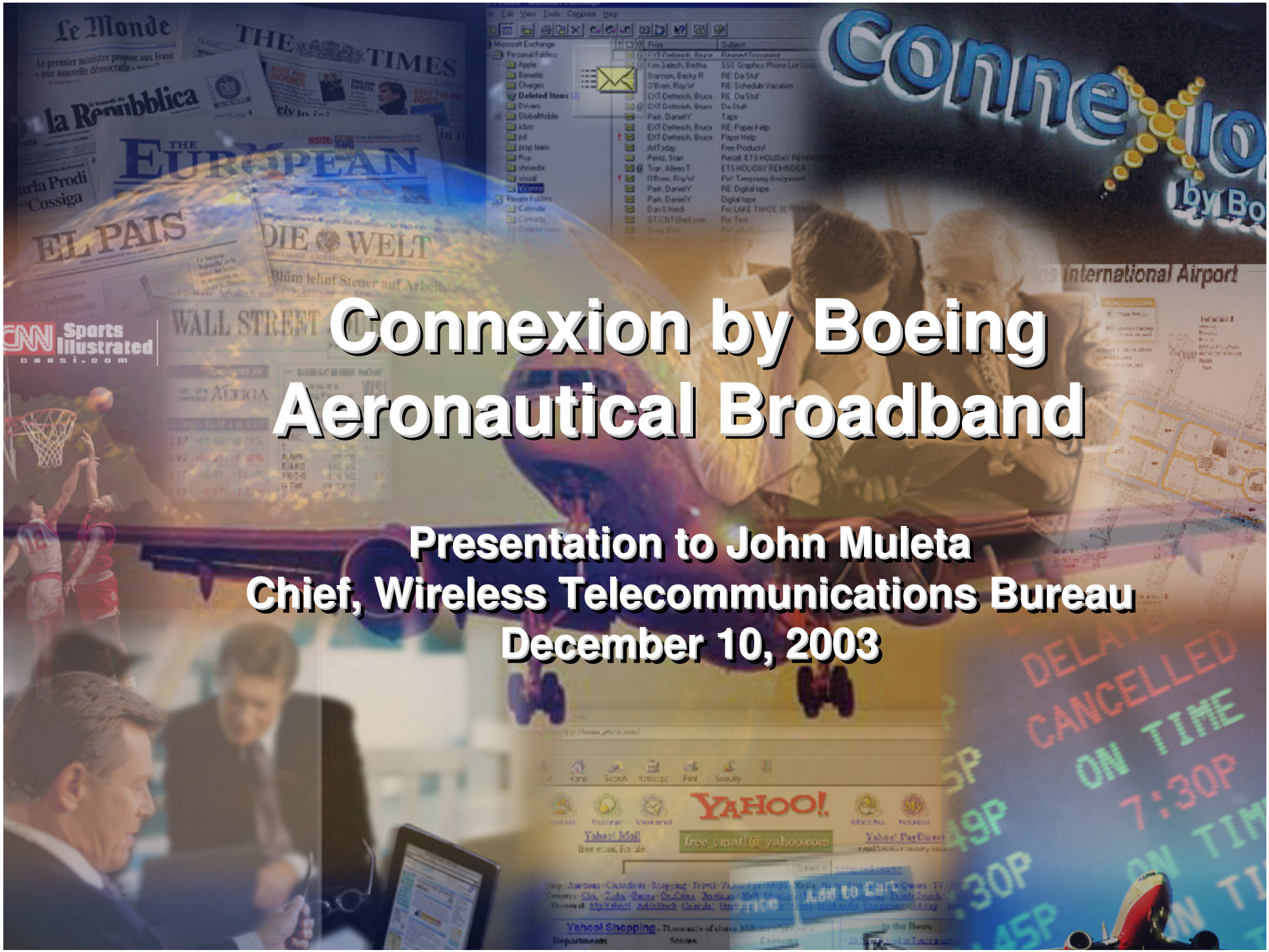
Any questions regarding this matter may be directed to the undersigned.

Respectfully submitted,

s/Carlos M. Nalda

Carlos M. Nalda
Counsel to The Boeing Company

Attachment
cc (w/ att.): Richard Arsenault
Shellie Blakeney
David Furth
Kathy Harris
Roger Noel
Julius Knapp
James Schlichting
Thomas Derenge
Neal McNeil


Le Monde
THE TIMES
la Repubblica
THE EUROPEAN
EL PAIS
DIE WELT
WALL STREET
CNN Sports Illustrated
Connexion by Boeing
Aeronautical Broadband
Presentation to John Muleta
Chief, Wireless Telecommunications Bureau
December 10, 2003
YAHOO!
DELAYED
CANCELLED
ON TIME
7:30P

Boeing Vision of the Networked Airspace

- Connectivity is becoming as important in the air as it is on the ground
- Future aircraft will be a seamless extension of the global telecom network:
  - Aircraft will be mobile nodes enabling full voice, video and broadband data connectivity worldwide
  - Networking aircraft will greatly increase airline efficiency, aircraft safety and passenger services
  - Passengers will have seamless access to personal communications at home and abroad
- Aircraft will no longer be unplugged outposts in a networked world

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The First Steps

Office LAN environment (broadband)

- Aircraft shared forward link bandwidth >5 Mbps
- Aircraft return link bandwidth up to 1 Mbps
- Supports VPNs (secure tunnels to corporate intranets)

Simple (standard) connection methods

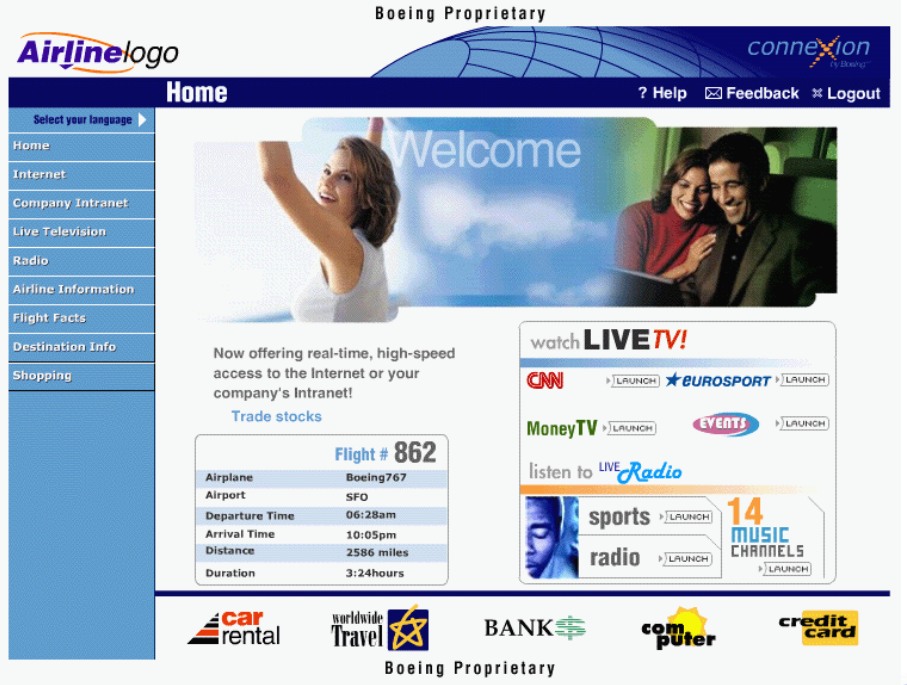
- Ethernet (RJ-45)
- Wireless (802.11a/b/g)

Simple billing options

- Flat rate per flight and metered
- Corporate accounts
- Personal credit cards

User friendly

- No unique set-up required
- Access your ISP and existing e-mail account



Current and Potential E-enabled Applications

Maintenance

- Maintenance documentation
- Maintenance improvements
- Aircraft Health Monitoring
- Electronic logbook
- Data loading
- e-Mail (real-time)
- Operational s/w and data bases storage
- Flight Operations Quality Assurance download
- Equipment List

Cabin Crew

- Passenger data base
- Crew e-Mail
- Cabin E – Logbook
- A/C Documentation
- Credit Card validation
- Cabin inventory
- Quality monitoring
- Reservations
- Security

Flight Operations

- Electronic Flight Bag
- Weight & Balance
- Performance Data
- Operational Checklists
- Access to Flight Information services
- Charts and Maps
- Crew e-mail
- Airline specific tools
- Security

Passengers

- e-Mail (real-time)
- Intranet / Internet
- News/Sports
- e-Commerce

Cargo

- Customs Clearance
- Cargo/Baggage monitoring

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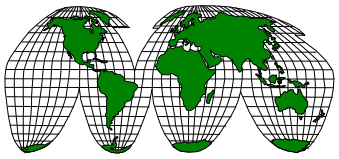
Current CBB Architecture

Frequencies

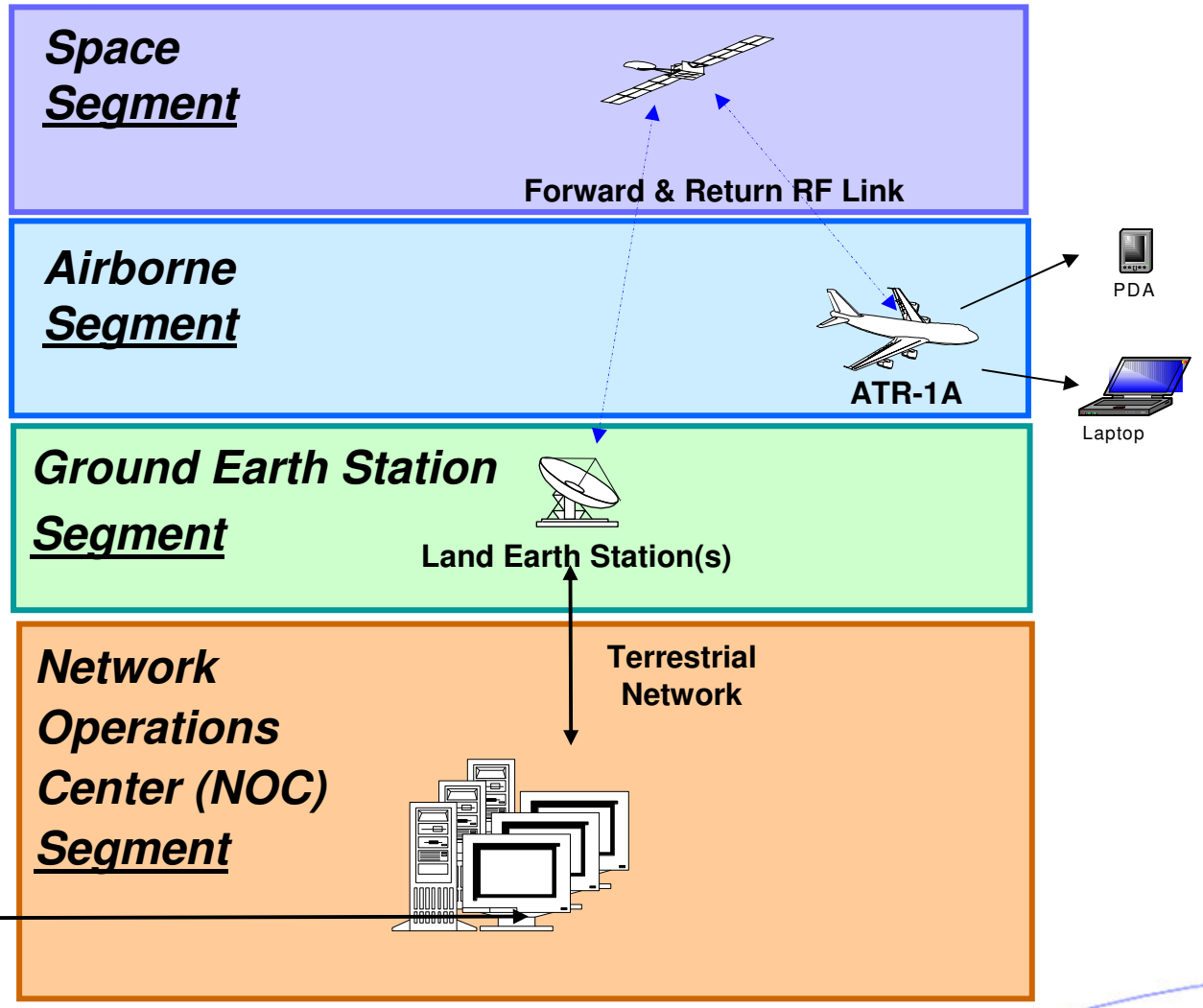
- *Uplink at 14-14.5 GHz*
- *Downlink at 10.7-12.75 GHz (varies by Region)*

Data Rate

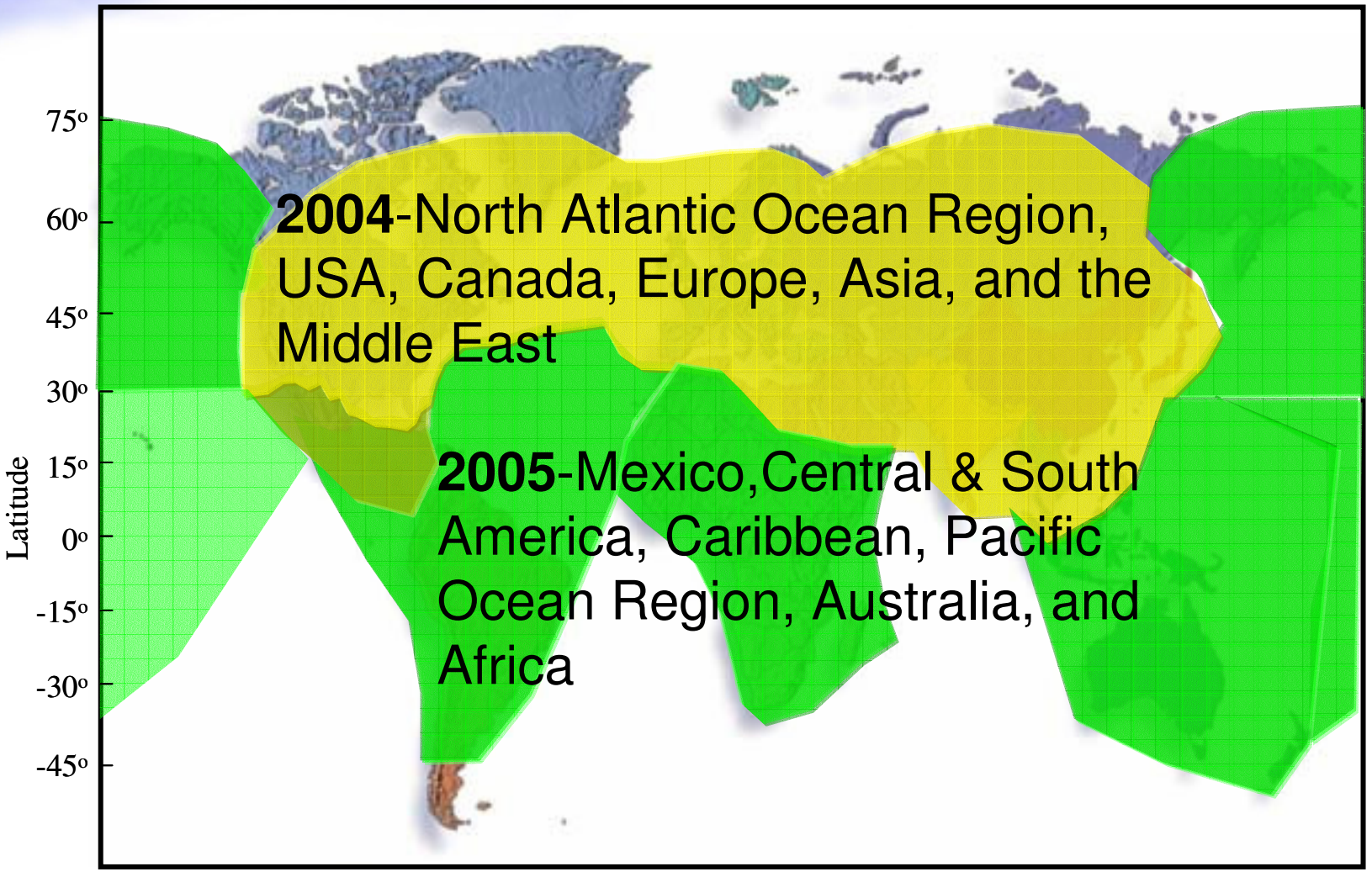
- *Forward Link 5 Mbps per transponder (may use multiple transponders)*
- *Return Link: Up to 1 Mbps*



- **Internet**
- **Corporate Intranets**
- **Airline Operations Centres**



Worldwide Coverage Roll-out



- ***Actual roll-out can change based on customer needs.***
- ***Coverage of all major air routes planned by end of 2005***

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Global Service Roll Out

- Commercial launch of service planned for 1Q 2004.
- Announced airline customers:
  - ✓ Lufthansa
  - ✓ Japan Airlines
  - ✓ Scandinavian Air Service (SAS)
  - ✓ All Nippon Airways
  - ✓ Singapore Airlines
- Trial Services with Lufthansa and British Airways completed in 2003.
- Service to general aviation market to start in 2005 through partnership with Rockwell Collins

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Boeing Interest in ATG Proceeding

- As the world's leading aerospace company, Boeing is aggressively pursuing the vision of a networked airspace to enhance passenger satisfaction, improve airline operations and increase aircraft safety and security
- Boeing's goal is providing the best, most cost-effective service possible by using the best available delivery technologies
- Boeing's current satellite-based system can be augmented with a terrestrial component
- ATG spectrum should be seen as an integral part of the overall global networked airspace

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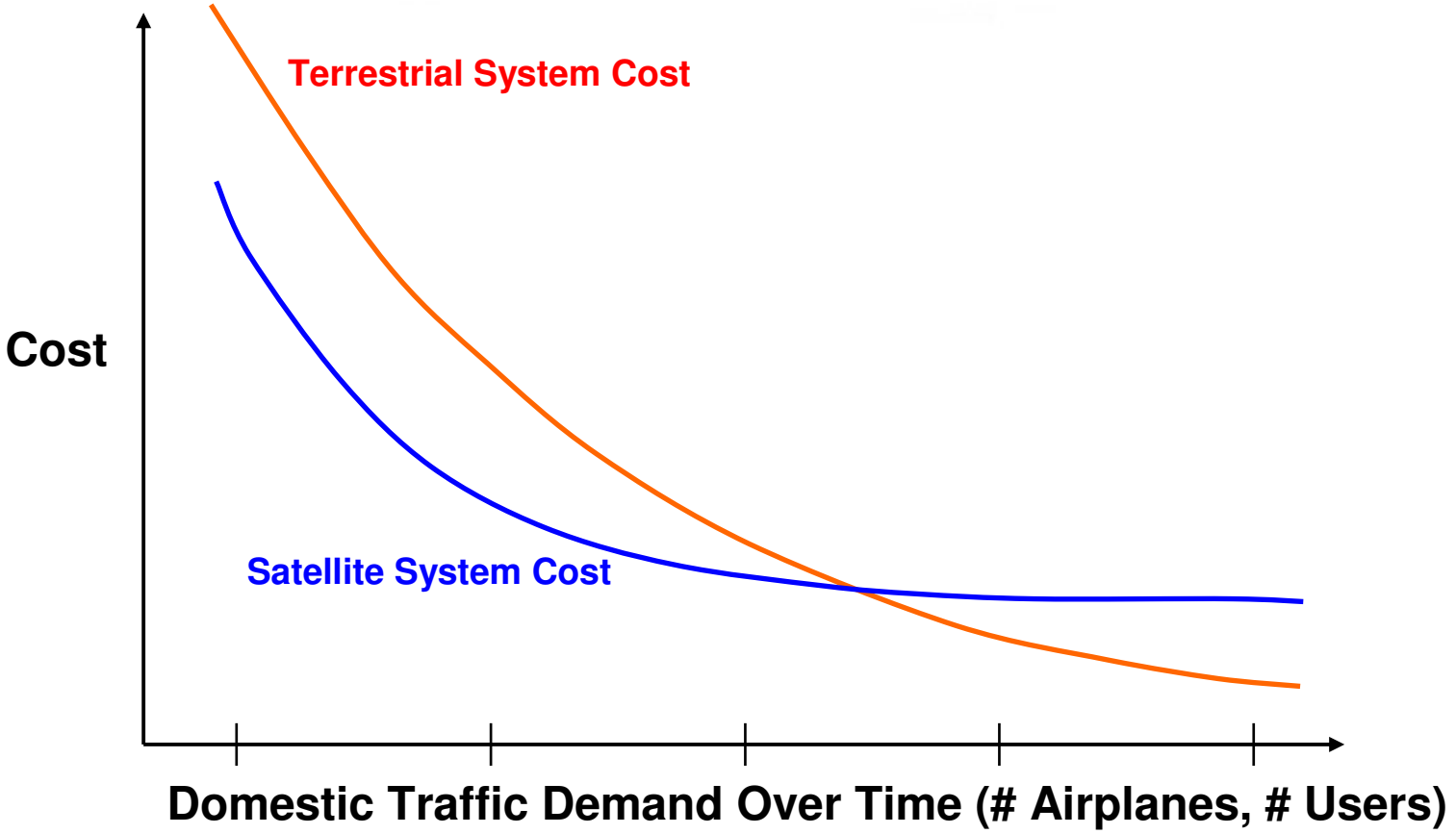
Cost Comparison of Satellite and Terrestrial



At Some Level of Domestic Traffic, a Terrestrial or Hybrid Solution Becomes the Lower Cost Alternative

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Stakeholder Interests in ATG Proceeding

Consumer needs

- Internet/intranet access
- Voice services
- Entertainment/Television

Airline needs

- Seamless coverage
- Fleet commonality
- Service quality / consistency

Regulatory policy

- Competition
- Efficient use of spectrum to provide services consumers demand

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Verizon Airfone Proposal Misses Objectives

Consumer needs

- ATG systems not efficient in delivery of broadcast content (e.g., TV, fleet data)

Airline needs

- ATG system does not serve long haul fleet, has gaps in coverage

Regulatory policy

- Verizon Airfone proposal precludes competition in existing spectrum

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Boeing's Vision for ATG Spectrum

- ATG spectrum can be part of a system to provide
  - all services consumers demand, including broadcast services
  - Seamless coverage to all aircraft globally, with high service quality
- At least two competitors could be licensed for such systems using the existing ATG spectrum

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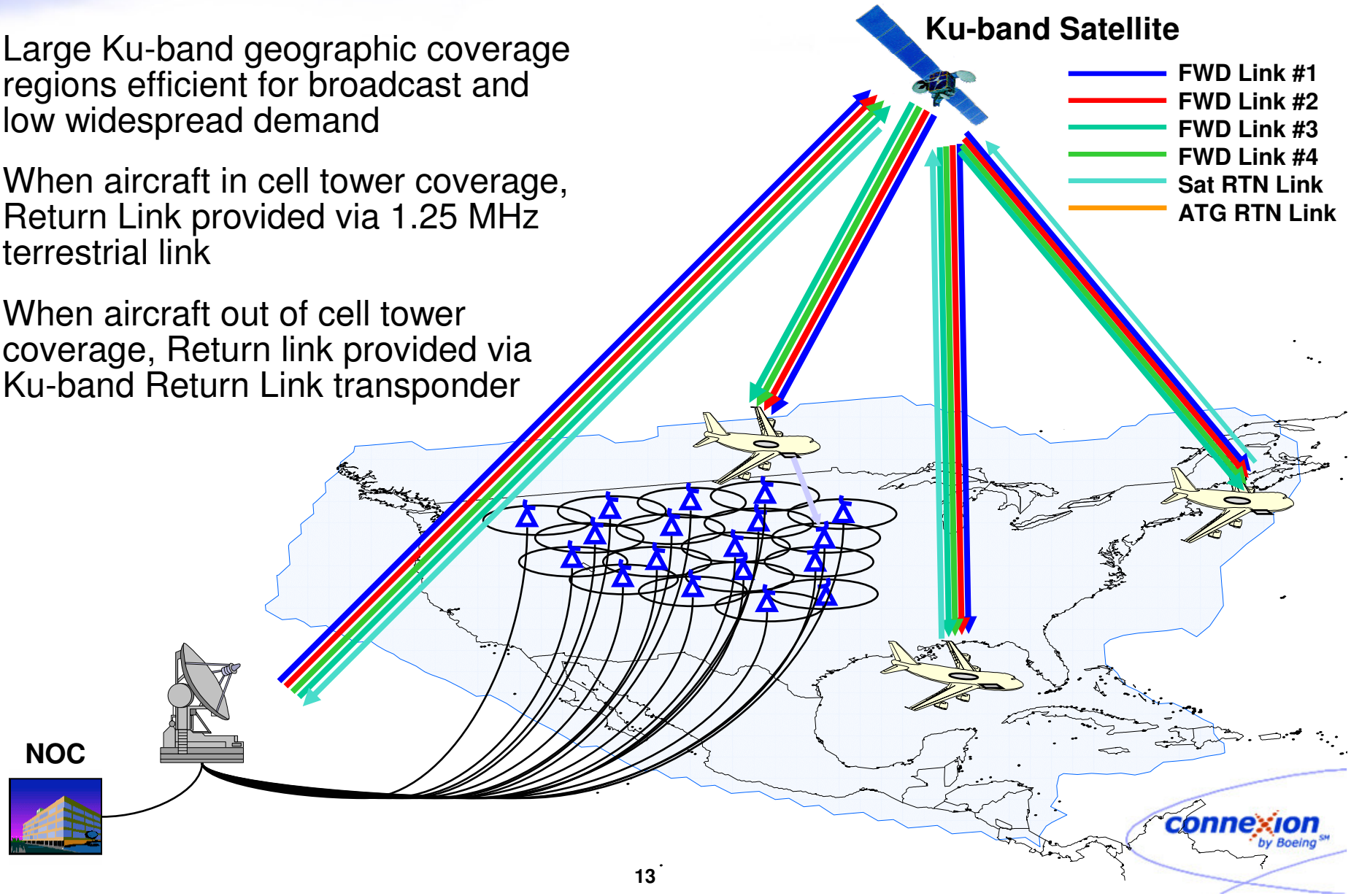
A Combined Satellite/Terrestrial Approach to Seamless Aeronautical Broadband

- Large Ku-band geographic coverage regions efficient for broadcast and low widespread demand
- When aircraft in cell tower coverage, Return Link provided via 1.25 MHz terrestrial link
- When aircraft out of cell tower coverage, Return link provided via Ku-band Return Link transponder



Further Study Required on Usage of Cell Phones

- FCC has the opportunity to expand access to wireless services to the flying public, including opening a new market segment for wireless carriers
- Boeing and others are performing further tests of cell phone usage on airplanes
- Upon completion of these tests, FCC should request further comment to determine whether existing prohibition should be retained
- FCC does not lose any time by developing further record on cell phone usage since rules cannot be changed until completion of RTCA studies

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Further NPRM on ATG Issues is Required

- The Public Interest would be served by developing a more complete record and seeking comment on specific proposals regarding reform of ATG spectrum
- Proposal by Verizon Airfone for exclusive use of spectrum would be contrary to FCC policy favoring competition and multiple entry
- Current record identified relevant issues, but does not point to a clear path to achieving a “fundamental reform” of ATG spectrum policy
- Any FNPRM must explore alternative architectures such as hybrid satellite/terrestrial systems which would enhance spectrum efficiency and allow multiple competitors

Summary

- ATG spectrum will play a major role in developing the aeronautical information infrastructure needed to enable the next generation of aircraft
- As a leader in the aerospace sector, Boeing has an interest in seeing the best possible, competitive solutions are made available for airborne communications
- While paging/streamlining issues are ripe for decision, further consideration of cell phone and ATG spectrum use issues, as well as results of pending tests, is needed for fundamental reform of ATG policy
- FNPRM would ensure the FCC has sufficient information to make the best-informed decision possible

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